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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,795	07/14/2003	Udo-Martin Gomez	10191/3081	7307

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EXAMINER
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LONEY, DONALD J

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/618,795

Applicant(s)

GOMEZ ET AL.

Examiner

Donald Loney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 and 3-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Maluf et al (6761420) as presented in the last office action, mailed April 6, 2005.

Maluf et al discloses a substrate layer 12, which can be Pyrex™, a silicon micro structured device layer 14 attached thereto and a cap layer 16 there over, which seals the microstructure device between the substrate and cap layer. The layers are all disclosed as being anodic bonded. Refer to figures 1, 2, 7, 8 14 and 15 along with column 5, lines 8-52, column 6, lines 1-22, column 13, lines 11-50 and column 15, lines 12-20.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 3-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sparks et al (6062461) in view of Ray et al (6062461) in view of either Maluf et al or Regan et al (6686642).

Sparks et al teaches a silicon component 14 vacuum sealed between a substrate 10 and a cap 12. Sparks et al does fail to specifically disclose the substrate as glass. Spark et al does teach that other materials besides silicon could be used (column 3, lines 46-49). Anodic bonding techniques between the layers have been contemplated per column 1, lines 34-41.

Both secondary references teach that the substrate for microstructured components can be either silicon or glass. Refer to column 125-31 in Regan et al. Refer to column 5, lines 8-15 in Maluf et al.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to the primary references to form the substrate of glass, as taught by the secondary references motivated by the fact the primary reference discloses that other materials besides silicon can be used and the secondary references disclose that either silicon or glass can be used in a very similar environment. The reference to Regan et al is particularly relevant since it is drawn to a vacuum sealed microstructured component also and teaches that the substrate and/or cap can be either glass or silicon. The examiner has cited the reference to Sparks et al (5831162) since it is referred to in Sparks et al '461 as teaching about the micromachined structure

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14 (column 3, lines 52-59) and discloses the silicon layer and connections per instant claims 3,4, 7 and 8. Refer to the entire document.

5. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maluf et al in view of the applicants discussion of the prior art as presented in the last office action referred to above.

Maluf et al teaches the invention substantially as recited except for the connections and shield of the micro structured component. See 35 USC 102 rejection above.

On page 2, lines 18-30 of the specification the applicant discusses that micro structured components having a silicon on glass layer are known.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to Maluf et al to use the micro structured components of the prior art as the silicon layer in Maluf et al motivated by the fact that Maluf et al discloses encapsulating a microstructure with a ca layer to a glass substrate and since Maluf et al also discusses the need for electrical communication of the component with the outside (column 6, lines 1-10).

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maluf et al in view of Karpman (6441481) as presented in the last office action referred to above.

Maluf et al teaches the invention substantially as recited except specifically disclosing the seal as a vacuum seal. See 35 USC 102 rejection above.

Karpman discloses that it is desirable to hermetically (i.e. vacuum) seal a micro structure component 12 between a substrate 10 and cap layer 20 in order to protect the

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component from foreign objects. Refer to the Abstract, column 1, lines 57-67 and column 4, lines 38-45.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to Maluf et al to form a hermetical seal, as taught by Karpman, in order to protect the component motivated by the fact that is why both references seal the component with a cap layer to the substrate.

### ***Response to Arguments***

7. Applicant's arguments filed August 11, 2005 have been fully considered but they are not persuasive. The applicant argues that the cap in the prior art is not bonded to the glass layer. However, due to the open claim language drawn to comprising the applicant is not excluding other layer there between. The substrate cap can be considered bonded to the substrate through the component structure since all layers were disclosed as being bonded by anodic bonding to one another. It appears the applicant is implying that their cap is directly bonded, with no other layers there between, to the glass layer. However, this is not commensurate in scope with the claims since the claims do not positively recite this and can be interpreted as indicated by the examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald Loney whose telephone number is (571) 272-1493. The examiner can normally be reached on Mon, Tues, Thurs and Fri. 8AM-4PM, flex schedule.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Donald Loney  
Primary Examiner  
Art Unit 1772

DJL:D.Loney  
10/30/05